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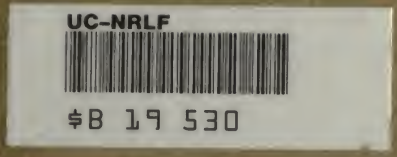

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Talking Gloves

For The Deaf and Blind

THEIR VALUE TO MEN INJURED IN THE PRESENT WAR

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Clark, Harold T

Univ. of California

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Cleveland, Ohio

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TALKING GLOVES FOR THE DEAF AND BLIND

Their Value To Men Injured In The Present War

The present war has proven tremendously destructive to the faculties of sight and hearing, and the number of men who will be deaf or deaf-and-blind as a result is certain to be large. The problem of keeping these men in touch with the world about them despite the loss of their faculties is not an easy one, but the consequences of so doing are so important that no efforts should be spared to aid them.

The purpose of this article is to describe very briefly one means—the use of a touch alphabet with a so-called "talking glove"—which has proven of the utmost value in the cases of various deaf and deaf-and-blind persons. Although this method of communication has, as will be hereinafter shown, been used in occasional instances during the course of several centuries, yet so little effort has been made to gather together the information in regard thereto, in the form of a permanent record, that the use of a talking glove is quite unknown to many persons who have had wide experience in the teaching of the deaf and of the blind, and one may consult such a standard work as the Encyclopædia Britannica (see article on Deaf-Blind, Vol. VII, Page 893) without finding any description of such a method of communication.

As a result of the prevailing ignorance as to this method there have been within the past sixty years at least two well established instances, hereinafter mentioned, in which touch alphabets were invented by deaf and blind men who had no knowledge that anyone had ever devised anything similar.

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The Early History of Finger Alphabets.

In an article entitled "Notes of Manual Spelling, Vol. I, American Annals of the Deaf and Dumb (1886)," page 51, the following interesting statements appear:

> "The origin of finger spelling is not known. Barrois, a distinguished Orientalist, in his Dactylologie et Langage Primitif, ingeniously traces evidences of finger-spelling from the Assyrian antiquities down to the Fifteenth centuries, upon monuments of art.
>
> "Bulwer in 1648 says: 'A pregnant example of the efficacious nature of the touch in supplying the defect or temporal incapacity of the other senses we have in one Master Babington of Burntwood, in the County of Essex, an ingenious gentleman, who, through some sickness, becoming deaf, doth notwithstanding feel words, and as if he had an eye in his finger, sees signs in the dark; whose wife discourseth very perfectly with him by a strange way of Arthrologie or Alphabet contrived on the joints of his fingers; who taking by the hand in the night can so discourse with him very exactly; for he feeling the joints which she toucheth for letters, by them collected into words, very readily conceives what she would suggest to him.' "

It would be interesting to know the precise arrangement of the letters of the alphabet upon the joints of his fingers as contrived by Master Babington of Burntwood about 270 years ago, but this does not appear.

George Dalgarno.

In his book entitled "Didascalocophus, or the Deaf and Dumb Man's Tutor," printed at Oxford, England, in 1680, George Dalgarno, who taught a private grammar-school at Oxford for about thirty years, advocated in the following language the use of a finger alphabet:

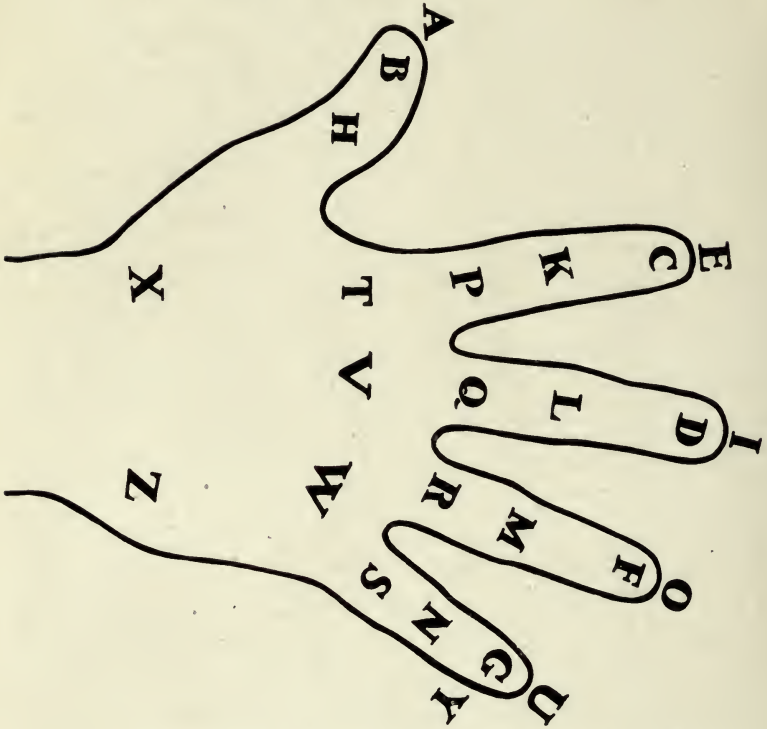
> "Because the conveniency of writing cannot always be in readiness, neither yet though it could, is it so proper a medium of interpretation between persons present face to face, as a hand language, it will therefore be necessary to teach the Dumb Scholar a finger alphabet; and this not only of single letters, but also for the greater expedition, of double and triple consonants, with which our English doth abound."

A copy of this book is to be found at the Volta Bureau Library, Washington, D. C., founded by Dr. Alexander Graham Bell.

George Dalgarno, having been the first to give a detailed explanation of, is sometimes credited with having invented, the first hand alphabet for the deaf-and-dumb (thus see Standard Dictionary Twentieth Century Edition, page 2238), but he did not claim to have invented this method of communication (see Vol. VII Encyclopædia Britannica, page 764).

The following diagram illustrates the arrangement of letters as made by George Dalgarno:

GEORGE DALGARNO TOUCH ALPHABET
(Palm of Left Hand)



It is interesting to note that in the George Dalgarno Touch Alphabet no provision was made for the letter J. This was undoubtedly because I and J were originally regarded only as different ways of writing the same letter. I and J were treated as the same letter in alphabetic arrangements as late as Todd's Johnson's Dictionary published in 1818 (See letter J in Standard Dictionary, Twentieth Century Edition).

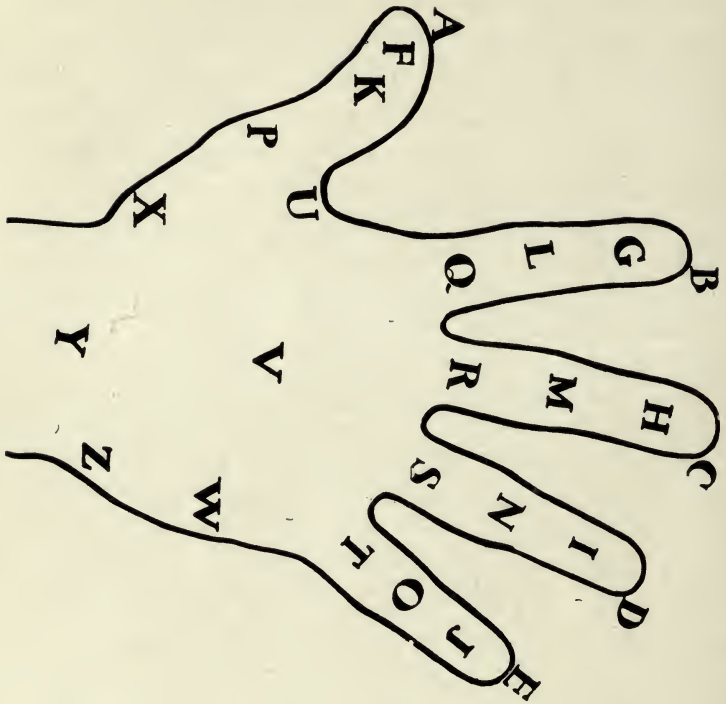
What use may have been made of the suggestions of George Dalgarno during the period of nearly 200 years that elapsed between the publication of his book in 1680 and the adoption thereof by Dr. Alexander Graham Bell in 1872, it is impossible to say. If such use was made no general circulation was given to any account thereof.

Dr. Alexander Graham Bell.

Dr. Bell in a pamphlet "Upon a Method of Teaching Language to a Very Young Congenitally Deaf Child" extracted from the American Annals of the Deaf and Dumb, April, 1883, Vol. XXVIII, Pages 124-139 (a copy of which is to be found at the Volta Bureau, Washington, D. C.), in recounting how he successfully taught language to a five-year-old boy in whose education he had become interested in October, 1872, said:

> "The moment he evinced the independent desire to communicate with others by written words, I felt that the time had come to give him a means of forming written words for himself by teaching him his letters and a manual alphabet.
>
> "For this purpose I adopted the plan, recommended by George Dalgarno, of writing the alphabet upon a glove. The arrangement of the alphabet I adopted is shown in the following diagram:

TOUCH ALPHABET USED BY
ALEXANDER GRAHAM BELL
(Palm of Left Hand)



(Note: As is hereinafter mentioned, Henry G. Stephens used the foregoing alphabet making only one change—putting A below Q instead of at the top of the thumb).

"For a long time he was very proud of his glove, and was delighted to find that he could communicate with his parents and friends, and they with him, by simply pointing at the letters on his hand.

"In communicating with me it was unnecessary for him to wear the glove, as we both remembered the places of the letters. * * *

"He did not require to look; he could *feel* where he was touched. He recognized the words in this way, however rapidly I spelled them upon his hand.

As I had five fingers, I could touch five letters simultaneously, if I so desired, and a little practice enabled me to play upon his hand as one would play upon the keys of a piano and quite as rapidly.

"I could also give emphasis by pressure upon the fingers and group the words together as they would be grouped in utterance, leaving pauses, here and there, corresponding to the pauses made in actual speech.

* * * * * * * * * * *

"The use of the glove alphabet was so little noticeable that I could talk to him very freely in a crowd without attracting the attention of others. I took him to Barnum's Museum, and talked to him all the time the lions were being fed, and I am sure that no one among the spectators had the slightest suspicion that the boy was deaf."

In an interview had with Dr. Bell at his home in Washington, in February, 1917, he recounted more at length some of the incidents above mentioned, and stated that his experience with the use of a touch alphabet had convinced him that it is a very rapid and important method of communication. Dr. Bell was greatly interested to learn that definite steps are being taken to spread a knowledge of this method among those who may be called upon to care for soldiers suffering affliction in the present war.

How many lives may have been brightened by having passed on to them a knowledge of the touch alphabet, as suggested by George Dalgarno in 1680 and improved by Dr. Bell in 1872, is unknown, but one instance, that of Henry G. Stephens of Stratford, Connecticut, is especially striking.

Henry G. Stephens.

Mr. Henry G. Stephens died on March 24th, 1917, at the age of eighty years, during the last thirty years of which he was totally deaf and totally blind, the result of three years of service with the Thirty-first Regiment, New York Volunteers, in the Civil War. Like those who will be mentioned later in this article, he was a splendid example of a man who broke down all barriers that threatened to separate him from the world about him. The following brief account of his life, which embodies an interesting reference to his use of the touch alphabet, a knowledge of which he acquired from Dr. Alexander Graham Bell in 1887 or 1888, is taken from a newspaper account written at the time of his death:

> "He was born in New York February 8, 1837. When he was twenty years old he married. Shortly afterwards he found it difficult to make a livelihood and shipped as a sailor from New Bedford on a sailing vessel.
>
> "After he was well at sea he was told and also his companions, that he had signed articles binding him to the master of the ship for four years. He protested against this, and when the ship landed at Peru he and his companions ran away. After his ship departed he and his companions were discovered and arrested and thrown into jail and treated with great brutality. In the course of time they made their way back home.
>
> "Soon after, in 1861, Mr. Stephens enlisted in the 31st Regiment, New York Volunteers. After about three years of faithful service he was mustered out. But he was blind in one eye and serious disease had destroyed his hearing. In the course of time the other eye gave him much trouble and the sight gradually faded away. So by the time he was fifty years old he found himself totally deaf and totally blind. But he was a man of perseverance. He was for many years a correspondent of the New York

and Boston papers. He took an active interest in all that was going on. When he was fifty-one years of age he undertook to learn to read books especially printed for the blind. He was told that it was almost an impossibility to do so at that age. But he succeeded in becoming an expert reader. Then Prof. Bell sent him an account of his touch method of reading from hand to hand. He and his wife made a careful study of this and finally perfected the system. A common lisle glove was used on the left hand. On that were stamped the letters of the alphabet. If a person wanted to talk with him he touched the letters and so spelled out words. And Mr. Stephens knew by the location what letter it was. The day before his death his pastor visited him and had an interesting conversation with him by this method. He claimed that the system was the best that had ever been devised for talking with people totally deaf and partially or totally blind, and that it would be a great boon to all such sufferers. In spite of the fact that he was thus handicapped he was remarkably well informed, and eager to learn all that was going on."

Before turning to the consideration of other touch alphabet systems, and in order to emphasize the simplicity and value of the marked glove method, it may be mentioned that a knowledge thereof was carried from Mr. Stephens to Mrs. Lucy Ann Whitlock, a deaf and blind woman residing at Ansonia, Connecticut, who learned the system when she was nearly seventy years of age, and has been using it with great success for the past eighteen years.

Other Finger Alphabets, Independently Invented.

Although, as we have seen, the idea of using a talking glove is an old one, yet, because no general knowledge of such a method had ever been spread, it was necessary for at least two deaf and blind men to work out systems for themselves. One of these was Mr. Morrison Heady, of Louisville, Kentucky,—the other Dr. William Terry, of Ansonia, Connecticut.

Morrison Heady.

Mr. Morrison Heady was born on July 19th, 1829, and died on December 20th, 1915, at the age of eighty-six years. He was totally blind for about seventy years and totally deaf over forty-five years, yet in spite of these handicaps he lived a full, useful life. Of his many achievements as an author and inventor, it is impossible to speak within the limits of this article. A good account was published in the Louisville Herald for July 31, 1910, and another in the New York Times for January 4th, 1914. The latter contains the following statement relative to Mr. Heady's talking glove, the idea of which was wholly original with him and worked out about the year 1860 without suggestion from any one:

> "It was through the first and most important of all Mr. Heady's inventions that the blighting darkness was in a measure dispelled and a means provided through which he could communicate with his fellow men. This was his letter glove of thin yellow cotton, on the palm and fingers of which are stamped in black in alphabetical order the twenty-six letters of the alphabet. With comparatively little practice he learned to distinguish the positions of the various letters on the glove, and then it was an easy matter for him to make out any words as this or that friend spelled them with careful finger on the glove. His

best friends—those who spelled to him often—can now tap out words upon his glove almost as fast as an expert typewriter moves.''

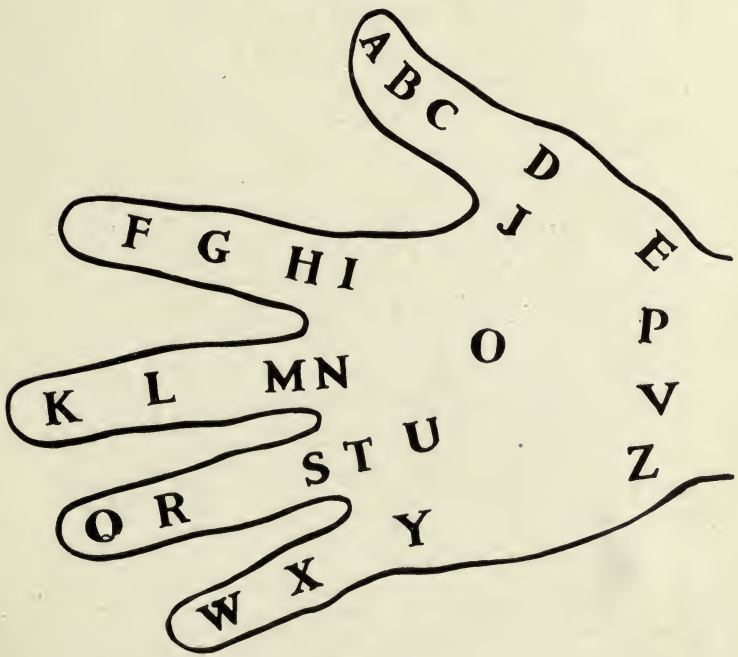
From this account we quote also the following:

''Never for a moment has Mr. Heady lost touch with the world. If you wish any figures on the cost of the Panama Canal; if you are looking for expert information about the East River Tunnel; if you are interested in monorail cars, aeroplanes, automobiles, radium—you will find a mine of information in the discourse of this octogenarian blind man.''

The following diagram shows the arrangement of letters upon Mr. Heady's glove.

TOUCH ALPHABET INVENTED BY MORRISON HEADY

(Palm of Right Hand)



The other system which is known to have been worked out through wholly independent discovery is the William Terry Touch Alphabet, invented by Dr. William Terry, of Ansonia, Connecticut.

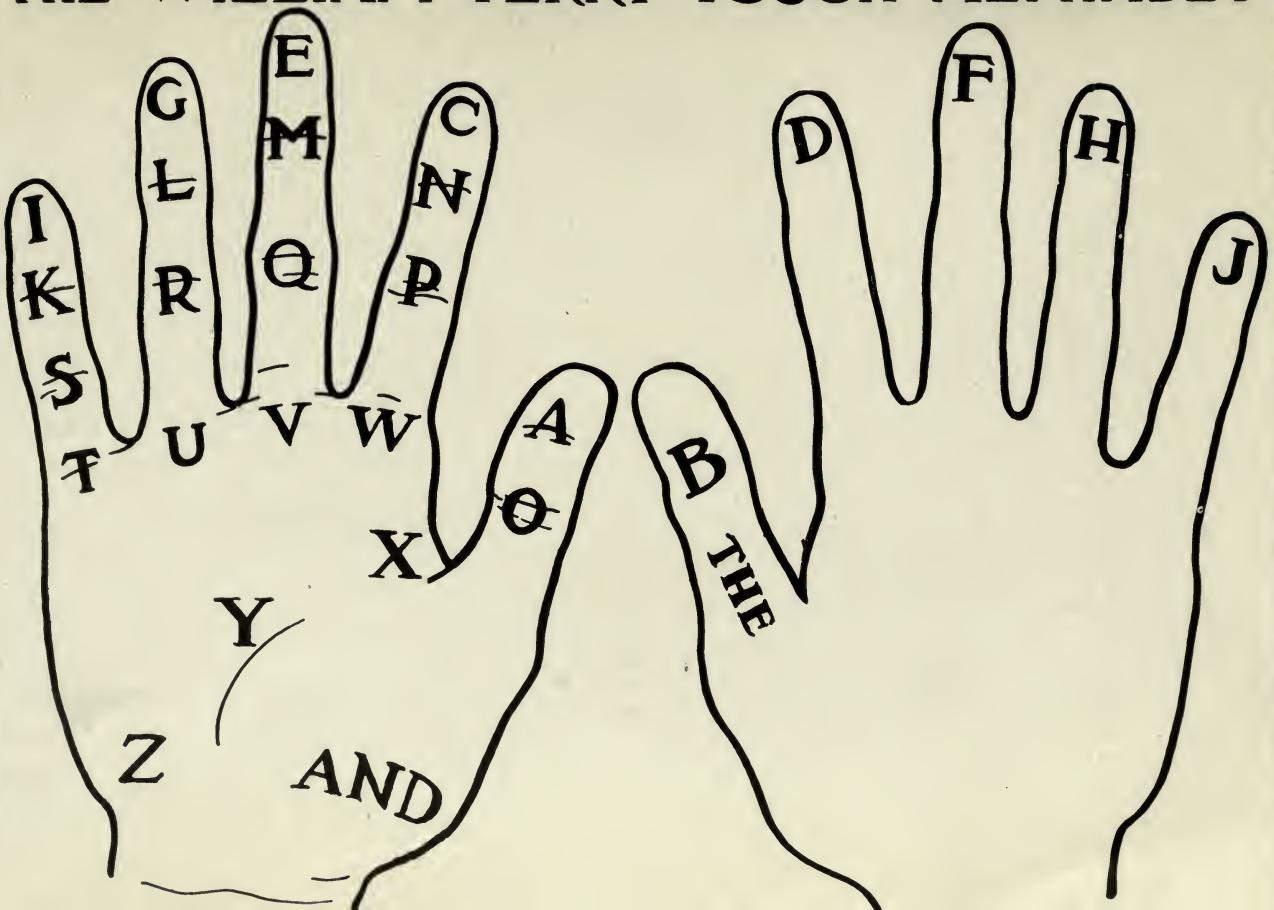
Dr. William Terry.

Dr. William Terry was born at Enfield, Connecticut, June 8th, 1822, and died at Ansonia, Connecticut, January 14th, 1908, in his eighty-sixth year. He was a surgeon in the Civil War and lost his hearing largely as a result of exposure and nervous strain while in the service. When he was seventy years old he became totally blind also. To quote from a statement which he made when he was eighty-two:

> "I found myself a dozen years ago in what the wonderful Miss Helen Keller calls the valley of twofold solitude, totally deaf and blind. I could converse with no one, and had to invent a system of touch alphabet for the hand, which by the use of a marked glove, has enabled me to enjoy the benefits of conversation. I would that the system might benefit many others as it has me. No other system would have served me so well. By it I have been kept well informed on current events and in sympathy with the rapidly advanced and ever advancing philanthropy and christianity of our blessed times."

The following illustration shows the arrangement of letters as made by Dr. Terry:

THE WILLIAM TERRY TOUCH ALPHABET



This is an especially good arrangement; it is compact and orderly and brings the vowels and letters most frequently used in places on the hand where they are readily found. By putting five of the letters on the finger nails it is possible to reduce the number arranged upon the front of the hand and to place them farther apart, thereby making the most effective use possible of the creases at the joints as an aid in determining quickly the exact spot touched. Either right or left hand may be used. Dr. Terry found his right hand more sensitive to touch and therefore used it.

It was Dr. Terry's custom to keep a marked glove in his pocket. Whenever any one came to see him he would reach in his pocket, put on the glove and enjoy a good visit. For fifteen years he was thus able to keep in close touch with such of his relatives and friends as lived near him. Those who lived at a distance wrote letters which were read to him, and hardly a day passed during this entire period of fifteen years without his learning the news immediately upon the arrival of the daily paper. As a result of his talks with different people, each one of whom would bring him some item of information from the world at large, he acquired a remarkable knowledge of current events. This frequently led him to ask questions as to the details of scientific discoveries and of political or economic movements at home and abroad, which made his seeing, but less well informed, friends feel quite abashed.

The alphabet affords an excellent method of talking with the deaf as well as with the deaf and blind. It has been used with great success as the medium of communication between two deaf people and also between a person who is deaf and one who is deaf and blind. After the alphabet has been memorized, which experience has proven takes only an hour or two, it is unnecessary to

use the white glove. When the glove is not used, the system is much less conspicuous than the usual deaf alphabet signs, and can be used without attracting the least attention by two people sitting near each other in church, at the theatre, on a train, or elsewhere. It permits of use at a considerable distance and has been found in practice to be of great value to deaf people at the dinner table. One member of the family who knows the system can, without attracting any attention, keep a deaf member or guest, even though seated at the other end of the table, fully advised as to the subjects under discussion, and thus make it possible for him to take part in the conversation. Even to those who read the lips readily, the alphabet is helpful for spelling out proper names or other unusual words.

The writer of this article has printed for private circulation a pamphlet describing at length the William Terry Touch Alphabet, together with a brief sketch of the achievements of Dr. Terry during fifteen years of total blindness and deafness. The pamphlet has been translated into French by a Belgian soldier, and copies thereof in either English or French will be mailed free to anyone who will address a request to Harold T. Clark, at 1201 Leader-News Building, Cleveland, Ohio.

At the request of the Vocational Secretary of the Military Hospitals Commission of Canada, copies have been sent to the Vocational Secretaries of all the Canadian Provinces, who are in immediate charge of caring for disabled soldiers.

Letters commending the William Terry system have been received from all parts of the world.

Prior to issuing the pamphlet in September, 1916, the writer made diligent inquiry to learn whether there was any touch alphabet in general use or about which there was any sort of general knowledge. This investi-

gation failed to disclose any such system and it was only as a result of a rather wide distribution of the pamphlet that from one source or another leads were found that made it possible to obtain the facts hereinabove given with respect to various instances in which talking gloves have been successfully used. There may have been other cases known to readers of this article in which some of the systems hereinabove mentioned, or indeed some entirely different systems, have proven helpful,—if so, the writer would like to know of them.

DR. WILLIAM TERRY.

HAVING THE DAILY PAPER READ TO HIM BY MEANS OF HIS TOUCH ALPHABET SYSTEM.

General Principles Underlying all the Touch Alphabet Systems.

All of the talking glove systems hereinabove described are for use with one hand, either the right or left hand as may be preferred. The basic principles underlying all are the same, although the arrangement of letters may differ. The most essential thing is to have the letters placed where the sense of touch is most acute, or at least where the exact spot touched can be localized quickly. The next is to have the letters arranged so as to be most readily found by the speaker, who frequently is one who never made use of a marked glove before, and at the same time fit into some orderly scheme that may be easily carried in the mind of the deaf or deaf and blind person.

In talking with elderly persons by the marked glove method it has been found easiest to have the letters go in their regular alphabetical order from one side to the other or up and down, rather than make some different arrangement thereof. The slight loss in speed is more than made up in accuracy.

It has been suggested that in the case of young or middle-aged deaf and blind persons, various advantages could be gained by arranging the letters on the fingers, having special regard to the frequency of their use and the combinations in which they are most likely to occur, as is done in the universal keyboard of a typewriter or linotype machine; that such a plan would increase the speed of communication and would also have the following advantages:

1. A blind person who uses a typewriter (as many do) would be able to talk to the deaf-blind person more freely.

2. The deaf-blind person himself would be more readily able to use a typewriter after being accustomed to this arrangement of letters on the glove.

Various suggestions have been offered as the best universal arrangement of letters upon a talking glove and as the result of experience which is being gathered in the United States and England it is possible that such an improved arrangement may be worked out.

In the meantime, however, we may feel entirely safe in urging the use of any of the arrangements of letters mentioned in this article, for they have stood the test of years of actual experience under the most adverse conditions.

An English Two-handed System.

In England some use is made of a two-handed system, as shown in the following illustration:

The following explanation accompanied the foregoing photograph:

"GLOVES FOR THE DEAF-BLIND.

The above photograph illustrates a method suggested by Mr. Leslie Callard, of St. Albans, by which

an inexperienced person can communicate with one who is deaf-blind. Should the deaf-blind be also dumb, he can speak to the sighted by simply pointing out the letters of the message he wishes to convey with the index finger of either hand on his own gloved hands and it can be read by the sighted. The letters are arranged in alphabetical order, one on each finger joint, and the figures on the nails.''

In a pamphlet issued by Miss M. Christine Baylis, Hon. Secretary of The Deaf-Blind Blessing Society of Worcester, England, the following statement is made:

''These gloves are a splendid invention. The letters of the ordinary sighted alphabet are printed upon the backs, rendering a conversation quite easy between a sighted person and a deaf-blind person, even though the former has never seen these gloves before. The position of the letters must be thoroughly memorized by the deaf-blind person, however, if conversation is to flow easily.''

Summary Advantage of a Touch Alphabet System.

The advantages of a touch alphabet system as a method of communicating with the deaf, and especially with the deaf and blind, have been so well stated in the quotations hereinabove given that it is unnecessary to do more than summarize them:—

1. By the use of a marked glove the deaf-and-blind person can converse with any one even though such other person had no previous knowledge of the system. The only ability required is that of touching the marked letters just as one would touch the keys of a typewriter. The simplicity of the system immediately widens the contact of the afflicted person with the world about him, because it enables him to converse not simply with one or more members of his household who may happen to know a particular system of communication, such as the

ordinary manual alphabet, but with any one. This is a wonderful boon.

2. The apparatus required is of the simplest,—only an inexpensive marked white glove which can be tucked in a pocket and put on instantly when needed. To one familiar with the system the glove is unnecessary. Single gloves are easily lettered with a pen and indelible ink. Gloves in any larger quantity are readily marked with a rubber stamp.

3. Such a system is very easy to learn and use. No further argument upon this point is needed than the following schedule showing the periods during which some of the deaf and blind persons mentioned in this article made use of this method of communication:

Names	Age While Using Touch Alphabet System
Henry G. Stephens.....	50 to 80 years
Lucy Ann Whitlock.....	70 to 85 years
Morrison Heady	40 to 86 years
William Terry	70 to 85 years

4. The speed obtainable is quite remarkable. The deaf and blind person soon learns word and sentence construction and anticipates what is coming, so that in conversing it is unnecessary to spell out all of every sentence or indeed of every word. Moreover certain word signs or contractions are easily worked out, which increase the speed.

To quote Dr. Bell again:

> "He did not require to look; he could feel where he was touched. He recognized the words in this way, however rapidly I spelled them upon his hand. As I had five fingers, I could touch five letters simultaneously, if I so desired, and a little practice enabled me to play upon his hand as one would play upon the keys of a piano, and quite as rapidly."

The reason why so many blind and blind-and-deaf people go through the world as burdens upon their families, friends or the community at large is because we seeing people are as to many things more blind than they. We do not realize that they, like we, must be kept in touch with the surging world or else soon fall behind. The testimony of every witness whom it is possible to summon, from Master Babington, of Burntwood, two hundred and seventy years ago, down to the present time, is unanimously favorable to the touch alphabet system as the best method of preserving this desired contact.

Harold T. Clark.

1201 Leader-News Building,

Cleveland, Ohio.

November 15th, 1917.

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